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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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THE REMOVAL OF ERIE LIGHT.

At the instance of the Light-House Board, the engineer in charge of the 10th district recently asked the opinion of the Cleveland vessel owners regarding the discontinnance of the main light at Erie, Pa. The question was left to the discretion of Buffalo vessel owners, although the engineer reported that the main light had lost its usefulness since the establishment of the light on Presquile as a coast light.

It now appears that some opposition is being developed, and it is learned that commercial circles at Erie are somewhat stirred up by the proposition to remove the land light-house, which is one of the oldest on the chain of lakes, and a landmark on Pennsylvania shores. Many vessel owners have signed a petition asking for its retention, but general manager Evans, of the Anchor line has refused to sign it. Pennsylvania railroad officials and Erie business men, it is stated, will join in a general protest.

UNITED STATES COAST LINE.

A recent official estimate of the coast line of the United States, including islands, indentations, and estuaries, gave as the total 90,900 miles. Of this the Atlantic Ocean accounted for 36,500 miles, the Gulf of Mexico for 19,100, the Pacific Ocean for 8,900, and Alaska for 26,400. Considering only the general coast lines, neglecting estuaries, bays, and islands, the Atlantic margin measured 2,000 miles, the Gulf of Mexico and the Pacific Ocean 1,800 each, and Alaska 4,300, a total of 10,400 miles.

THE LARGEST STEAMSHIP COMPANIES OF THE WORLD.

The new list of the international steam merchant marine compiled by the Bureau Veritas, gives some interesting statistics concerning the great ocean steamship companies of the world.

Some people will be surprised to learn that the trans-Atlantic lines are not the leading ones in aggregate tonnage or number of vessels. The British India, of Glasgow, and the British India Steam Navigation Company, and the British India Associated steamers, all one concern, head the list with 103 steamships, their aggregate tonnage being 239,635 tons. Next stands the Peninsular and Oriental Steamship Company with 36 steamships, representing 216,887 tons. Next in order comes the Campagnie des Messageries Maritimes, with 61 vessels, whose aggregate tonnage is 202,622. The fourth on the list is the Norddeutscher Lloyd, of Bremen. This company has 66 steamers, measuring in all 197,169 tons. Other important lines are the Navigazione Generale Italiana, 106 steamers, 170,725 tons; the Campagnie Generale Transatlantique, 66 steamers, 167,-487 tons; the Hamburg-American Packet Company, 56 steamers, 165,442 tons; the Wilson Line, 86 steamers, 158,089 tons; the Austrian Lloyd, 73 steamers, 128,359 tons; the Allan Line, 39 steamers, 123,038 tons; the Spanish Compania Transatlantica, 34 steamers, 94,163 tons; the White Star, 20 steamers, 95,370 tons; and the Cunard, 26 steamers, 85,913 tons.

TO CARRY THE UNITED STATES MAIL.

The Postmaster General has executed ocean mail contracts with the International Navigation Co., whereby the company are required to operate a line of steamers between New York and Southampton, Eng., with at least one sailing every week. The steamers are required to be of American construction and not less than 8,000 tons register; also a line of the same class, of American construction, to make 52 trips each year between New York City and Antwerp, Belgium, touching at Southampton, Eng., and Bologne, France. These contracts will require an expenditure for new ships of between $8,000,000 and $9,000,000. Seven vessels will be required. Five new ones will be built, and the City of New York and the City of Paris, having already received registers, will be used to complete the quota of steamers necessary to fulfill the mail subsidy contracts.

THE REVENUE MARINE.

Capt. Shepard, chief of the revenue marine division, has made a report to the Secretary of the Treasury in regard to the operations of the vessels of the revenue service during the past fiscal year in patroling the coasts rivers and harbors of the United States for the protection of the revenue, &c. The number of vessels boarded and examined was 37,521, of which 1,233 were found to have violated the reveuue laws. The fines and penalties in these cases amounted to $363,174. Fifty persons were saved from drowning, and assistance was rendered to eighty-four vessels in distress, the value of which, with their cargoes, was $2,417,745. Capt. Shepard says that five new vessels are urgently needed for the proper maintenance of the service, viz., two on the Pacific coast, two on the Great Lakes, and one on the New England coast. The necessary withdrawal of the steamers Rush and Corwin for duty in Alaskan waters has caused serious embarassment to the service on the Pacific coast. The expenditures on account of the revenue service during the year were $975,551, of which $20,444 were spent in enforcing the law regulating the anchorage of vessels in New York harbor.

To September 30 the Bear had cruised more than 10,000 miles in Alaskan waters, and with the United States ship Adams will remain as a guard in the vicinity of the Seal Island until December 1 next.

NOMENCLATURE.

The large steel "straight-back" freight steamer now under construction at the Wyandotte yards of the Detroit Dry Dock Co., is to be named the Selwyn Eddy, in honor of the gentleman of that name who is one of the well-known firm of Eddy Bros. & Co., of Bay City, Mich., large ship owners and lumber men.

SHORTAGES IN GRAIN TRANSPORTATION.

In an article on the proper method of handling bulk shipments, the *Railway Review* enunciates some markedly pertinent truths, in the interests of the railroads, on the bill of lading question. This feature, which has become so annoying to vessel owners, is ably dealt with in the following manner:

"The receipt given by the carrier, ordinarily called a bill of lading, is not conclusive of the fact which it recites, at best. It may be rebutted or denied, or qualfied or explained. It is evidence of the fact which it recites only so far as those facts are true, and it has happened that bills of lading have been given for goods which actually had not been received, and the fact that the company had signed a receipt for them did not and could not prevent it from showing that the goods in fact were never delivered.

It is a question of fact, and purely a question of fact, whether goods are delivered to a common carrier or not, and what amount of goods are delivered. This may be proved by the receipt or bill of lading if that document correctly recites the amount of the shipment; but if it does not recite the amount of the shipment correctly, then either party may show by other testimony what the actual shipment was. The receipt or bill of lading is merely *prima facie* evidence of the transaction, and is only evidence for what it is worth. It will not prevent the introduction of other evidence to contradict it, and if it is incorrect, it is simply valueless and cuts no figure in the transaction. Inasmuch as it is futile for the railway company to attempt to escape any of the liabilities of a common carrier by the ambiguous wording of its bill of lading, it would seem to be the better policy to make the bill of lading conform strictly to the facts, and relieve the carrier from the imputation of attempting to evade his liability.

If the bill of lading correctly recited the exact amount of grain weighed in, and the grain was then weighed out at the other end, and the carrier was responsible for the difference in weight, it is highly probable that there would be much less difference between the loading and out-turn weights. Under such circumstances a business system would be applied to what is now conducted on a decidedly haphazard plan. The weights at the elevator at the point of shipment would be verified and checked by the carrier's representative, while the weights at destination would be so guarded as to admit of little opportunity for error or dispute. Under the present system the railway company is entirely at the mercy of the local shipper, who, if he operates an elevator, strives to make his house "weigh out," and is therefore not likely to give the railway company any the best of the weight; while when the shipment reaches the terminal point, it is weighed out by the storage or tranfer elevator, or track buyer, all of whom are interested in obtaining as full a weight as possible. It is well known that in railroad yards where cars stand waiting in transit there is a greater or less amount of shrinkage, resulting from the predatory proclivities of various residents along the line. Taking these three elements into consideration, there is not, as the situation exists to-day, a very roseate outlook for the railroad company which attempts to stand good for the loss between the weight given by the elevator at the point of shipment and the result at the scales at the point of receipt, or to the shipper when such is not the case.

These things should be corrected. There should be a system of checking which would make the weights at the country elevator correct; there should be a police system which would insure those weights in transit, and there should be some system which would guarantee proper weighing at the point of receipt."

Hitherto it was generally believed that the "haphazard plan" existed only or chiefly in the shipments by lake, the differences varying any way between 50 and 1,000 bushels. If the railroads are also suffering a pecuniary penalty for not giving up what they never received, there are some hopes that the "cut throat" bill of lading may soon be amended.

PREPARATIONS are well under way by the English syndicate for building its first two whaleback steamers. One will run between England and Baltimore, and the other between England and the River Danube, to the utter discomfiture of the ordinary tramp steamer.

NEWS AROUND THE LAKES.

CLEVELAND, O.

In the drydock survey on the steel steamer Onoko, held at Buffalo, Capt. Dan McLeod represented the underwriters and Mr. Thos. Bristow, superintendent at the yards of the Cleveland Ship Building Co., the owners. The estimated cost of repairs was placed at $16,000.

Several important causualty cases are being adjusted at Chicago this week and Mr. Harvey D. Goulder, proctor in admiralty, is attending the hearing in the interests of his clients. It is now thought that Thursday will be consumed in going over the cases, as up till lateWednesday night the Nahant-Pillsbury case, which is the most recent, had not been reached.

The steel steam yacht Comanche, built by the Globe Iron Works, and now on her way to New York, reached Quebec all right and cleared for Halifax, N. S., arriving there on Wednesday afternoon. Mr. H. M. Hanna, her owner, speaks in the highest terms of her efficiency in every respect and in a dispatch to the builders stated that he would leave Halifax for New York on Wednesday night.

All possible advance is being made on the J. J. Hill passenger steamers at the yards of the Globe Iron Works Co. and the frames for the first one are now going up. This yard has all the work contracted for that they can enter into for the present and neither money nor marbles could secure the placing of another keel on the ways for immediate delivery. A feature in the completion of the first Hill Line boat is the amount involved —$550,000. This is the largest sum ever invested in one bottom on the lakes, and with the sister ship, totals the neat sum of $1,100,000.

It is now learned that there is every indication of the Inland Lloyd's register being kept in the field as the classification for all lake built tonnage, and the rules revised so as to include iron and steel ships.

The removal of the principal underwriters' offices to Chicago during the past three years, with the addition of at least two more companies at that port next season, will probably bring about the issuing of the work from Chicago instead of Buffalo. No decisive steps, however, will be taken in the matter until the annual meeting of the general agents, at Detroit, next spring, when, if the same feeling continues that is now evinced, a domestic register, the same as has hitherto existed, in lieu of a universal classification record, will no doubt be endorsed by the general agents of the home companies engaged in lake underwriting.

Captain Thomas Wilson, managing owner of the Wilson Transit Line, received a letter from Capt. Buie of the Wallula, which lightens a little of the odium which has been cast upon the La Salle Street tunnel, crossing Chicago river. Capt. Buie's letter is as follows:

"Doubtless you already know that the Spokane was hard aground on La Salle Street tunnel. Four tugs made unsuccessful efforts to pull her off, then gave it up in the hope that the very low water prevailing yesterday, would improve during last night, but it did not. At eight o'clock this morning I decided to bring the Wallula from the North branch, and try what we could do. Accordingly the harbor master was found and our plans made known to him, which met with his approval. He promised to hold Wells street bridge open to give the Wallula the room necessary for operating on the Spokane. I then got a heavy towline, and at 1:30 p. m. I was ready to pull on the Spokane, twenty minutes later she was afloat and going down the river all right. We had no assistance from tugs with the exception of one to hold the Wallula in position, and I think the Wallula gave an exhibition of power to several thousand people, such as was never seen on Chicago creek before. In regard to the Spokane, she was not overloaded, she left the Indiana elevator, which is above 18th street on the South branch, drawing 16 feet aft, 15-9 forward, she came down easily through the 18th street bridge and Taylor street bridge, considered the two worst places, but, at Washington street, a few days ago, the side fell out of an elevator, and 50,000 bushels of wheat went into the channel. The Spokane had to plow through this wheat, and got stuck in it, losing several hours before she got afloat again, and in the meantime the water fell eight inches or more, which fact coupled with a little bad management on the part of the tugs, resulted in the grounding on the tunnel. Though beyond the detention, no other loss or damage was experienced."

ONTARIO SHIP RAILWAY.—CANADIAN MARINE.

Special Correspondence to The Marine Record.

TORONTO, CAN.—Mr. Joseph Blakeley, a prominent citizen, and a man well versed in maritime and littoral progress, stated in an interview that the building of the Ontario ship railway from the Georgian Bay to Lake Ontario would make Toronto the distributing place between east and west, an advantage now practically monopolized by Buffalo. The route to the sea will be shortened so considerably that the bulk of the traffic will pass through this port, bound up or down the great lakes. Trade which is being diverted via. New Orleans, owing to the congested condition of traffic on the railroads that run through the Eastern States, Mr. Blakely is convinced, would come this way. The greatest civil engineers in America and Europe have pronounced this ship railway certainly feasible.

The project has the great advantage that the trade is not to build up; it is ready, waiting to flow into the new route. The tonnage rates for transport over this big ship railway would pay an ample dividend on double the sum of money required to construct the line, and still the cost to ships would be far below the present expense of the long water route.

It is the intention of the promoters of the Ontario ship railway to use electricity as their motive power. What a dozen locomotives would do, burning tons of coal, can be done much cheaper by motors attached to the trucks under the ship.

The original power will come from Lake Simcoe, which will be tapped. The charter of the company gives the right of taking water for this pnrpose "to from and along the line; of building tunnels, pipes and viaducts for this end; of erecting plant for developing such power;" and, which is of immense importance, "disposing of surplus power and water to corporations and individuals." Here we have the prospect of a power greater even than that of Niagara, brought to our doors. A hundred thousand horse power can be developed without any trouble and at very little cost.

When we bear in mind the fact that the tonnage of the great lakes during about 234 days each season is larger than the combined tonnage of London and Liverpool for the whole year, the very great importance of the ship railway scheme is apparent.

The new steamer Arabian, owned by Capt. Fairgrieve, of Hamilton, called at this port on her way up from Montreal to Duluth. This is the first time she has been here and many people were on hand to admire her. Capt. Harry Chestnut, late of the propeller Canada, is in command, and Mr. J. C. Turnbull is purser. After the Arabian reached the Welland Canal she had an accident and managed to break three gates out of Lock 4.

A dispatch from Sarnia states that the propeller Canada, recently burned in Lake Huron, is a total wreck.

A formal agreement has been drafted, and is being signed by a number of Toronto vesselowners to the effect that the subscribers will not carry grain from this port to Oswego, Charlotte, Sodus Point, Kingston, or any other Lake Ontario port for less freight rates than as follows: Balance of October, 2 cents per bush.; November 1 to 15, 2½ cents; November 15 to close of season, 3 cents. Lumber is to be regulated thus: rest of October, $1 per thousand feet; November 1 to 15, $1.25; November 15 to end of season, $1.50. Pick-up cargoes are to be charged extra freight, according to location. A noticeable feature of the document is that coal is left out, for which reason some shipowners will not sign. Others object on the ground that trade is already too bad to risk diverting it to other ports, which would be almost sure to happen. J. A. C.

THE WEEKLY GRIST OF CHICAGO'S MARINE.

Special Correspondence to The Marine Record.

CHICAGO, ILLS.—The Goodrich Transportation Co.'s steamer Virginia left this port Monday for Manitowoc, where she will go into winter quarters. She has had a very successful season running between Chicago and Milwaukee.

Anna Henry, aged 60 years, died October 19th, of cancer, at her daughters, Mrs. James Hogan, 2919 Haynes street, Chicago. The deceased was the wife of George Henry, an old lake engineer, and mother of William Hendry, chief engineer of the steamer S. K. Martin.

The Chicago Vessel Owners' Association will this week send to the Hon. Benjamin F. Tracy, Secretary of the Navy, a strong recommendation to retain Commander Nicol Ludlow as inspector of the Ninth Light House District.

At Miller Bro.'s Dry Docks, the tug J. V. Taylor was in dock for repairs to her rudder; the fireboat Geyser for general repairs; the steamer R. J. Gordon for a new shoe and rudder post; the steamer A. D. Hayward for a new wheel and some calking; the tug Robert Tarrant for a new wheel; the steamer George Presley for a new shoe and repairs to stem; the schooner Naiad for some calking; the steamer Argo to have a leak stopped. The schooner Elizabeth A. Nicholson received a new rudder stock.

W. L. Brown, of Chicago, has been elected president of the Chicago Ship Building Co., in the place of Emmons Blaine, deceased.

The schooner W. O. Goodman arrived in port Monday night, minus her bowsprit and some head gear, which she carried away by collision with a lumber pile at Sturgeon Bay. Repairs will be made at this port.

Your correspondent happened to go on board of a lumber schooner about noon time recently, and found the captain and mate making a meal on some cold corn beef and bread. The captain kindly asked me to partake of some, and explained why he was fixed in that way. He stated that when in Chicago a short time ago he discharged all hands except the mate and cook, and when going up the river to a dock to unload, he got the cook to ride in the boat and help to handle the ropes at the dock. He had not been there long when a delegate from the Seaman's Union came on board and gave notice to the cook that he must attend at the Seaman's Union Hall, where he was fined $10 for exceeding his duties as a cook. The cook left the Union and did not pay the fine.

The steamer Spokane, with a big load of grain for Buffalo, got stuck on La Salle street tunnel Thursday morning, and remained there until Friday afternoon, when she was released by the steamer Wallula after repeated efforts had been made by several of the V. O. T. tugs.

The schooner City of Grand Rapids carried away her jibboom and some head gear by collision with the steamer Thomas H. Smith, at a dock near the north pier, when going up the river Monday morning, at four o'clock, in tow of the tug Chicago.

The steamer Thomas Maytham, recently built by the Chicago Ship-Building Company, will soon be completed and will start on her maiden trip the first week in November.

The Lake Front excursion steamers took along about 30,000 passengers to the World's Fair dedication. The business was not half what it was expected to be, and few of the boats more than cleared expenses. All the steamers have gone into winter quarters.

The old elevator on the west side of Chicago river, between Washington and Madison streets, collapsed and many thousands of bushels of wheat fell into the river from the bins. The transfer steamer McCormick was loading flour at the Norton flour mill, her stern lapping about 20 feet opposite the elevator, and considerable of the wheat and debris fell on her deck. The steamer John Owen, coming down the river in tow of the tug Protection, was nearly an hour getting through the wheat which had fallen into the river and decreased the depth of the water.

The steamer Charles A. Street has been sold to H. M. Loud & Son, Oscoda, and not to Ed. Ayer & Co., Chicago, as reported in my letter last week, the former firm having purchased her for $40,000, on the 10th inst. The Street is here with cedar ties from Alpena. Captain Thomas McCambridge continues in command. He has done excellent work with her this season, having carried 52 cargoes since April 25th, comprising 47 loads of iron ore, from Escanaba to Fruitport, Mich.; two loads of pig iron to Milwaukee, one load of pig iron to Buffalo, where she loaded coal for Escanaba, and one load of ties from Alpena to Chicago. She will trade out of Oscoda with lumber in the future.

WILLIAMS.

LAKE SHIPBUILDERS CAN BUILD NAVAL TONNAGE.

THE STEEL STEAMER E. C. POPE CARRIES THE PENNANT FOR BIG CARGOES IN COAL AND WHEAT.

BUFFALO, N. Y.—Lieutenant Corden, of the United States revenue marine, who was last week in Buffalo, told your correspondent some interesting things. He said: "The eastern shipbuilders will talk the treaty of 1817 till you can't rest when there seems to be any inquiry regarding the building of some of Uncle Sam's war vessels of such type as could get to the sea coast, by lake shipbuilders, but I think a little concerted action on the part of the latter would compel the government to consider their bids, as that treaty was abrogated by Congress in 1861, and has never again been officially declared in force." The fact that Lieut. Corden is making a tour of the principal shipbuilding ports of the lakes to inquire regarding their ability to construct vessels of war, makes the opinion he expressed of considerable significance. It was also learned that the government has been ascertaining what class of armament could be mounted on the big steel freighters of the lakes in case of trouble with England, as against the armed naval force the latter country could place at once on the inland seas. The result has been so satisfactory that there seems to be no possible need of a lake navy.

Capt. John Shaw took the trip up in the steamer E. C. Pope when she carried her record breaking cargo of 3,950 tons of coal. He says there is no truth in the report that the steamer got aground on Grosse Point. He says she did break three buckets off her wheel, but that she drifted several lengths after her machinery stopped. A diver was employed who put another bucket on the wheel, and the Pope proceeded to Chicago with but two blades on her screw. Capt. Shaw also says that the Pope did not load on the bottom at Chicago. She took on her big wheat cargo at a new elevator at South Chicago, and the slip had to be partly dredged

out to accommodate her. The Pope's wheat cargo weighted out 120,191 bushels, 191 bushels over her bills of lading. She drew 15 feet 8 inches forward and 15 feet 11 inches aft.

The tug E. C. Maytham, which went through herself some weeks ago, has been repaired and is again in commission.

The steamer Niagara is kept busier than any boat in this vicinity. She is run as an excursion steamer in the summer and in the winter is put on the ferry route to Fort Erie. She has just finished a general overhauling and next week will start in on her winter business. The Niagara was built to go through the ice which floats down the Niagara river. She draws about 14 inches forward and 9 feet aft.

The canal convention was a great success, and the idea of trolleys for motive power on this waterway, as suggested several years ago at New York, was dwelt upon. The feasibility of this plan is beyond question.

This week nine whalebacks, five being steamers, and the monitor freight steamer Andaste, were in port at one time. Eight of the whalebacks brought down 700,000 bushels of wheat.

Coal shipments for 25 days of October were over 536,000 tons, or more than any previous record for an entire month.

Tuesday the Western Elevator Co., which controls all the Buffalo elevators, gave orders that the Richmond and Brown elevators, on Buffalo creek, should at once be put in condition to handle grain. The Richmond elevator has been idle for two seasons and the Brown for eight. The houses themselves have been kept in good repair, but a good deal of dredging will have to be done. This action on the part of the elevator combine shows that there is danger of a blockake similar to that of last year, and all steps are being taken to prevent such a general jam as occurred last fall. The two houses in question have 250,000 bushels capacity each. They are canal elevators and having no rail connection, could in any event be used only a short time, as the New York grain men have decided to receive no canal grain after November 15th.

The Onoko's damages, according to the survey here, amounted to $16,000. She had about 900 bushels of wet wheat.

A diver was employed to remove a line from the wheel of the steamer F. L. Vance, which became disabled in that fashion while in tow of a tug.

Capt. Lehman, of the new Davidson steamer City of Naples, is enthusiastic over his boat. He says she makes 12½ miles an hour right along. He left Duluth on his last trip down 45 minutes behind the new Wheeler boat Bielman, and says he beat her out of sight to the "Soo."

A curious crowd witnessed the workings of the turbine wheel canal boat from Lockport, which lay in the Erie basin one day last week.

A NEWSY LETTER FROM THE HEAD OF LAKE SUPERIOR.

Special Correspondence to The Marine Record.

DULUTH, MINN.—That the Duluth wheat trade has held up the vessel market the past week or two, has been very evident from the telegraph business of the vessel brokers here, and from the attention paid this trade in the east. Four cents was freely bid for room here all last week, and the rate from Port Arthur, also controlled by this city, went to 4½, with quite a number of charters made at 4¼. The wheat movement continues at the rate of about 2,000,000 bushels receipts a week, and shipments last week were 1,400,000 bushels. There is now in stock an even 5,000,000 bushels, which is double the quantity here a year ago at this date, and last year the elevators were all full before the opening of navigation, giving an enormous forward movement from here in the early weeks of lake navigation this year. It will be remembered by vessel men that in the first three weeks of navigation, prior to May 15, when storage charges began to accumulate, there were over 600 cargoes taken out of this harbor, and shipments aggregated nearly 11,000,000 bushels. It now looks as if that business would be imitated to a certain extent next spring. Of course it is very early to judge, but the present movement hitherward, which is about equally divided over the Northern Pacific, Great Northern and St. Paul & Duluth roads, leads to that conclusion, as does the fact that the Great Northern road is so pressed by its west coast extension that it cannot furnish cars for the grain business at this end anywhere near as fast as needed. The local terminal elevators of the Great Northern have done very little business so far this year, and now hold only about one-fourteenth of the grain in store here, though their capacity is about one-sixth of the total. Nearly all the wheat so far arrived has been at the elevators of the Lake Superior and Union Improvement companies, which have to-day 3,500,000 bushels in stock.

At the Steel Barge Company's yard No. 127, the flour barge, with all port and no starboard gangways, will be launched in a few days, and the 126, a sister barge, in a week thereafter. Both will be of a size to get through the Welland canal. Material is ordered for new vessels, which will not be launched before spring.

The long-looked for event, the arrival of the first car load of ore from the Mesaba range, occurred last week, and the car, containing twenty-five tons of Bessemer soft hematite from the Mountain Iron Company's property, 60 miles north of Duluth, has been the center of attraction as it has stood in the big steel shed of the fine passenger depot. The ore is so soft that before it had been tramped over five minutes in the car, the chunks were all reduced to loam, and not an atom of what is ordinarily looked on as ore appeared. Nevertheless, it all ran 65 per cent. in pure iron. It had been mined by a steam shovel direct from the ore bed that morning. To-day the first train load is on the way down, and it will be loaded into the completed pockets of the ore dock on Allouez bay, it is claimed, this week. If so, there will be shipments of 8,000 to 10,000 tons of ore from this mine to the east this fall. The improvements of the year at old Superior, of which Allouez bay is a part, have been very large, and I shall expect to give quite an extended resume of the work of building this new harbor next week.

The mills here last week ground 50,000 barrels of flour, thus putting Duluth in second place among milling centers of the United States ranking Milwaukee and St. Louis. Of the total, the Imperial ground 36,000, giving it a larger daily average than was ever made by any mill in the world for a like period. The Imperial is building a new 300,000 bushel elevator, and there is talk among the stockholders of adding another mill, of 7,000 barrels daily capacity, to the plant. The North Dakota Farmers' Protective elevator, that was to have been built at Old Superior, is not yet started, but probably will be soon.

The experiment of the Shores Lumber Company, an Ashland concern which does all its shipping by water to the east, and to Chicago, is being looked on with great interest by the lumber dealers here who domuch eastern shipping. The company bought two steamers, the Prentice C. Powers, and has leased one, the Shores, Jr., and has bought the schooners Middlesex, Halsted and Constitution. The entire fleet will carry four million feet, and left the company's dock the other day with 3,940,000 feet, enough to stock a good-sized yard, for Chicago. It is believed there is big money in such a company running its own vessels. The Shores Company will probably build a vessel to take the place of the Shores, Jr.

The new Davidson schooner Aberdeen, has just taken her first cargo out of this port. She loaded 61,800 bushels wheat.

Iron Range shipments of ore for the last week were only 26,000 tons, making total shipments for the year to date about 1,075,000 tons; it begins to look as if the expected business of 1,250,000 tons would scarcely materialize. Ore docks are badly crowded, is given as the cause for the light business.

D. E. W.

ADMIRALTY DECISIONS AT DETROIT.

Judge Swan, of Detroit, recently rendered an important decision in the collision case brought by the owners of the barge John Sherman against the steamer Olympia. The collision occurred below Walkerville, in Detroit river, on May 8, 1891, and resulted from the Olympia's steering gear having suddenly become disabled. After reviewing the evidence submitted concerning the Olympia's tiller ropes and steering apparatus, Judge Swan concluded that they were all right as far as skill and care could make them, and dismissed the libel.

A second case was that of the owners of the schooner S. B. Pomeroy against the Canadian propeller Pacific.

This collision occurred on the afternoon of May 10, 1890, in the Sault Ste. Marie river. The Pomeroy was anchored and had on board 900 tons of coal. The Pacific, a vessel of 1,000 tons register, came up the river at great speed, according to the stories told by the Pomeroy people, and struck a dock just below where the Pomeroy lay. The steamer then, it was alleged, bounded off, and continuing on, struck the Pomeroy on the port side, slightly injuring her. The testimony introduced at the time was very contradictory and Judge Swan, relying in good part upon the report of the weather bureau for that day, exculpated the steamer and, as the damage was slight, dismissed the libel.

The third suit was that of the schooner J. F. Card against the steamer Iron Chief. The collision in this case took place in Waiska bay, at the head of the St. Mary's river, at about 9 o'clock on the morning of July 24, 1891. The schooner was laden with block stone and had been cruising about in search of a tug to tow her to the river. When the people on the Iron Chief first saw her she was tacking, and as she was making toward the steamer, the steamer stopped, to find out if possible which way the Card was going. When the schooner came about and headed down the channel, the steamer sailed on again and whistled to indicate that she understood the schooner's course. The steamer hugged the north side of the channel, which is about 600 feet wide. The Card lost her swing and headed across the channel towards the Iron Chief. The latter hugged the north side still closer, so as to give the schooner a chance to pass, but the schooner was not under control and the captain of the Chief, seeing that a collision was inevitable, kept away, so as to make the impact as light as possible. When the schooner struck the steamer, she slewed around and drifting back, collided with the steamer's tow, the latter grounding on the bank of the channel. The bow of the Card was badly damaged and her anchor was knocked overboard, the chain running out until the anchor took to ground and brought her up. The grounds for the libel were that the steamer should not have attempted to run through the channel with her consort after being apprised of the schooner's purpose to sail through; and that she failed to keep out of the schooner's way. Judge Swan, after reviewing the testimony, held that the Iron Chief was not at fault, because the schooner was blamable in taking the course she did and inviting the risk of a collision, and because even if the steamer did want to recede it was too late on account of her tow and her heavily laden condition.

FLOTSAM, JETSAM AND LAGAN.

The first whaleback steamer to be built on the Pacific Coast will carry 5,000 tons.

The steamer E. C. Pope loaded 120,000 bushels of wheat at South Chicago on a mean draft of fifteen feet eleven inches.

The largest steamer ever built in Holland was launched on August 24th at Flushing, for the Rotterdam Lloyd. She is 358 feet long, and her name is Gedeh.

It is announced from Nantes that when once the French Mercantile Marine Bounties law is passed, five or six large sailing ships will be built there for shipowners belonging to that port.

There are now forty-two electric lights around the French coasts, and they are constantly being increased in power. The three lights at Ushant, Barfleur and Belle Isle are each now equal to 900,000 candles.

Captain Andrews, in his 16-foot dory, in which he crossed the Atlantic from Atlantic City, N. J., to Lisbon, has terminated his voyage in safety, reaching Palos Tuesday, October 4th, where he received an ovation from the community.

"There are only a few of us left and we are fast dying off," said an old American ship owner a short time ago. But the breed is not entirely extinct, and as it is a good strain, it is beginning to pick up again. The race will show many members again and some of the old survivors will be proud of the energy of their successors.

A large sailing vessel named the Placilla has just made the voyage from the Lizard, in England, to Valparaiso in 58 days, and from Iquique, with 4,300 tons of saltpetre, back to the Lizard in 76 days. She passed the Lizard outward on the 2d of March, and reached it homeward on the first of September, thus making the two passages out and home in just six months.

The tug W. G. Wilmot, built at West Bay City by F. W. Wheeler & Co., was pontooned down the St. Lawrence, last Saturday by the Collins Bay Rafting and Forwarding Company. The pontoons raised her from a draught of 12 feet to 8 feet. The tug is bound for New Orleans. It is expected that these Kingston pontoons will be patronized by the tonnage bound to and from the World's Fair.

The Liverpool *Mercury* says that despite contradiction, some journals will maintain that the White Star line are having a huge steamer, to be called Gigantic, built at Harland and Wolff's yard. The facts are that this firm are having two steamers built—one a cargo steamer, and the other a passenger steamer—but not intended for the American passenger service.

The "blizzard" flag and "blizzard" warning, lately used in the Northwestern States by the Weather Bureau has very sensibly been taken in by Prof. Mark. W. Harrington for repairs. The red flag with black center displayed will continue to be known as the storm signal. "Blizzard," indeed! Such a high-falutin term beats the predictions, and the Westerners "don't want no fun poked at it."

Milwaukee is to have a new and larger life saving station in the near future, one with a residence for the family of the keeper attached, and also ample accommodations for the crew. The building will cost between $7,000 and $8,000, and an improved landing place for the boats from $1,500 to $2,000 additional. Bids for the work are to be advertised soon, with the requirement that it must be completed within ninety days after the award.

CORRESPONDENCE.

☞We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

A LITERAL CONSTRUCTION OF THE EIGHT-HOUR LAW.

To the Editor of The Marine Record:

I have read with much interest your excellent recent editorial on the eight-hour law, and its influence in the letting of contracts by the United States. It will cost the government a vast amount of money. What took place with regard to letting of the contract for the U. S. R. M. steamer "Calumet," is only a straw compared with the enormously increased expenditures made necessary on all government works hereafter. The effect of this law is already causing much embarrassment to all the departments, as it is now very difficult to place a contract because manufacturers do not care to have their entire workings upset by taking a small government contract upon which they are restricted to 8 hours work, as was the case with the Union Dry Dock Co., of Buffalo, cited in your article. It is not, however, my purpose to discuss the workings of this law, but the law itself. As we judge from your editorial, and other reports, it is made to press heavily, and to bear where its language does not seem, to a layman, to justify.

The exact language of the law is as follows:

EIGHT-HOUR LAW AFFECTING CONTRACTS WITH THE UNITED STATES.

[Public—No. 193.]

An act relating to the limitation of the hours of daily service of laborers and mechanics employed upon the public works of the United States and of the District of Columbia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the service and employment of all laborers and mechanics who are now or may hereafter be employed by the Government of the United States, by the District of Columbia, or by any contractor or subcontractor upon any of the public works of the United States or of the said District of Columbia, is hereby limited and restricted to eight hours in any one calendar day, and it shall be unlawful for any officer of the United States Government or of the District of Columbia or any such contractor or subcontractor whose duty it shall be to employ, direct, or control the services of such laborers or mechanics to require or permit any such laborer or mechanics to work more than eight hours in any calendar day except in case of extraordinary emergency.

SEC. 3. That any officer or agent of the Government of the United States or of the District of Columbia, or any contractor or subcontractor whose duty it shall be to employ, direct, or control any laborer or mechanic employed upon any of the public works of the United States or of the District of Columbia who shall intentionally violate any provision of this act, shall be deemed guilty of a misdemeanor, and for each and every such offense shall upon conviction be punished by a fine not to exceed one thousand dollars or by imprisonment for not more than six months, or by both such fine and imprisonment, in the discretion of the court having jurisdiction thereof.

SEC. 3. The provisions of this act shall not be so construed as to in any manner apply to or affect contractors, or to limit the hours of daily service of laborers or mechanics engaged upon the public works of the United States or of the District of Columbia for which contracts have been entered into prior to the passage of this act.

Approved, August 1, 1892.

It will be seen from the foregoing, that it applies directly to laborers and mechanics employed by the government of the United States and the District of Columbia, and any contractor or subcontractor upon any of the public works of the United States or the District of Columbia.

As a layman, (I may be in error,) I understand this law to mean just what it says,—no more, no less. It applies to men employed by "Uncle Sam," or the District of Columbia, and to contractors upon public works of the United States. It seems to the writer that much depends upon what is a public works of the United States. We refer to the Century dictionary, and we find, *Public Works*,—all fixed works constructed for public use as railways, docks, canals, water works, roads, etc., —more strictly military and engineering works constructed at public cost."

Now from the plain every day English of this law, we do not see how it reaches private shops, works, or factories. Literally, the men employed upon the public works would be eight-hour men, but would the saw mills which furnish the lumber, or the iron mills which furnish the iron, be controlled by this eight-hour law. We think not. They are certainly not the public works of the United States.

We cannot see anything in this law binding upon employees in any private concern unless they are sent to work under contract or otherwise upon the public works itself. Nor do we see how a steamer built in the works of a private concern under contract or otherwise can be construed a public works of the United States; and even when so built, it is not the property of the United States until it is received and paid for.

PRO BONO PUBLICO.

A HARD WINTER PREDICTED.

ZINGSEN, N. J., Oct. 18th, 1892.

To the Editor of The Marine Record.

Tell your readers to prepare for a great storm on the 21st and 22nd of this month, with heavy rains, and destructive gales, it will change remarkably cold, rain to snow. And it will be intensely cold over all the western states, with heavy snows from the 22nd to the 29th. Those who are looking for an open winter will get badly left. Your readers should prepare for an old-fashioned winter with snow five feet deep, and it will last six months. A. J. DE VOE, Meteorologist.

(This prognosticator is evidently away off in the first portion of his prediction at least, as elegant weather existed on the dates set for a great storm. Better try it again. ED.)

A WRECK COURT OF INQUIRY.

A general meeting of all persons interested will be held at Chicaso this week, to consider a number of recent collision and casualty cases now pending. It is hoped that all of these cases can be settled by arbitration. Vessel men and underwriters have become tired of costly and long drawn out litigation which results in some such ruling as division of damages, without regard to the finding concerning where the actual and technical facts regarding the accident rested. They feel like placing the statements, in the shape of depositions of witnesses, in the hands of an attorney well posted in admiralty, and leaving the matter either for him or a committee to decide. They expect less delay than in the courts. The technical features of these cases are essentially national in their importance, and as the government, license and qualify officers, so also ought it to vouch for the intelligent performance of the duties which its compulsiory license covers. Either this is so, or owners should be entitled to exercise their own discretion regarding the capabilities of their officers, untrammeled by an official voucher of competency. If the Treasury Department will not take action in the matter, private citizens will soon be proving a dereliction of duty on the part of those who are intrusted with the carrying out of our navigation laws, and further, they will revoke official action by holding it up to ridicule. The onus rests with the power that issues licenses, to prove their reason of action, and this can not be done by deserting their licensed officers the moment that they get into trouble.

LOCKING THROUGH CANALS.

The operation of locking through canals calls for precise and immediate carrying out of orders, failing which, a casualty, involving far-reaching interests, is liable to ensue. The engineers in charge of the improvements at the St. Marys Falls canal fully appreciate the care which must be exercised in this connection, and several orders requesting ship masters and officers to observe extra precautions when locking through have emanated from the canal management.

As an indication of how easily inter-lake communication may be paralyzed, we may instance the Welland canal accident of last Saturday, when three of the gates of lock No. 4 were swept away. It appears that the new Canadian steamer Arabian was going up the canal, bound from Montreal to Fort William, with a general cargo. She had got safely into the lock when the mate, who was on the bridge, gave the signal to the second engineer to reverse the engine. As the engineer did not appear to heed the signal, Captain Chestnut again pulled the bell and yet the big steamer did not come to a stop. In another moment the Arabian had dashed into the upper gates, tearing them away from their hinges.

The water in the upper level, which fortunately was a short one, rushed down, carrying the steamer, gates and all, to the lower level. One of the lower gates was also torn off. The damage was great and the cost of repairing the lock will be thrown on the steamer. It is supposed the engineer mistook the signals. The canal pontoon was sent for, and the work of repairing was completed Monday, at a cost of $4,000.

THE "WHALEBACK" MONOPOLY.

The whaleback tonnage is not by any means to be disregarded as a factor in the late transportation industry. A special to THE MARINE RECORD from Port Huron, Mich., states that twelve "whalebacks" passed that point on October 21st, as follows: The Wilson Line propeller Sitka and 105, Samuel Mather and 116, Thos. Wilson and 117, the Bartlett and 103 and 101, Colgate Hoyt and 115, James B. Colgate and 118. This fleet may be credited with a total grain carrying capacity of about a million and a quarter bushels, or say a total of 24,000 tons. The fleet is being added to in such an enterprising and aggressive manner that "whaleback" freight charges will soon be considered the acme of economy in lake transportation, and, therefore, a ruling factor in the freight market; at least, such is the apparent outlook at this time.

TREASURY DECISIONS.

MATERIALS TAKEN FROM FOREIGN VESSEL CONDEMNED IN UNITED STATES PORT NOT DUTIABLE.

TREASURY DEPARTMENT, Aug. 4th, 1892.

SIR:—In reply to your letter of the 1st inst. relative to the Portuguese bark Maria Lila, now at your port, which has been condemned as unseaworthy and is to be sold at auction and broken up, I have to inform you that under the Department's decision, Synopsis 563 and 7807, the material taken from said vessel would not be considered as an importation, and would not be liable to duty.

To Collector of Customs, New Bedford, Mass.

LIGHTS ON SMALL CRAFTS.

Local Steamboat Inspectors, Marquette, Mich.:

The Department has received your letter of the 2nd inst., relative to the construction to be placed on department circular No. 15, current series, governing lights on small crafts. The words "near the channel or fairway of any harbor" refer to the waters in or about a harbor which are public and are open for the navigation of any craft. The rule governing lights on rowboats is peremptory in its terms, that the lights shall be placed two feet above the stem of the vessel. The regulations referred to took effect from and after the date of their approval. ASS'T SECRETARY.

FEES FOR ADMEASUREMENT OF VESSELS.

TREASURY DEPARTMENT, Aug. 13th, 1892.

SIR:—This Department is in receipt of your letter, dated the 9th inst., requesting advice as to charges for admeasurement of the steamer City of Taunton.

The usual charges may be made for the sections below the tonnage deck, and for one "between decks." The only separate charge for measuring spaces occupied by boilers, engines, etc., is that authorized by the Department's circular (Synopsis 5343), which states that the excepted space will not be divided into sections, but will be admeasured as a whole. The charge for admeasuring crew space is $1.50; for admeasuring the space occupied by the boilers and machinery is $1.50, and for admeasuring the space occupied by the shaft trunk or alley of vessels propelled by screw is the same amount.

Respectfully yours,
O. L. SPAULDING.

To Collector of Customs, Newport, R. I.

DOCUMENTING OF VESSELS TRANSFERRED TO FOREIGN FLAG.

TREASURY DEPARTMENT,
BUREAU OF NAVIGATION,
WASHINGTON, D. C., Aug. 15th, 1892.

SIR:—I transmit herewith for ready reference a copy of a letter from the deputy collector of customs at Sault Ste. Marie relative to a tug, the name of which he fails to specify, and which, therefore, can not be entered on the records of the Department according to the usual course of procedure. He inquires whether an American-built tug, hull, boilers and engine "owned by an American citizen and transferred to Canada," may now be documented by said American citizen as a vessel of the United States. He reports that the owner is not a full citizen, but declared his intention to become one fifteen years ago, and is willing to take out final papers.

The law forbids the documenting in the United States of a vessel which has been sold or become the property of an alien, except under certain circumstances not understood to exist in the present case. Had the owner been an American citizen, the mere act that the vessel was "transferred to the Canadian flag," since the close of the "War of the Rebellion" would not necessary preclude the granting of documents in the United States. (Sections 4135, 4136, 4165 and 4172, R. S.; Articles, 8, 9 and 75, Regulations of (1884).

This office understands that the law contemplates full citizenship in such cases; that is to say, there must be a declaration of intent, a residence for a continued term of five years next preceding admission, the taking of an oath to support the Constitution, and actual admission by a court of competent jurisdiction, unless the case falls within section 2166 or 2174, R. S.

Please advise the deputy collector accordingly.

Respectfully yours,
T. B. SANDERS,
Acting Commissioner.

To Collector of Customs, Marquette, Mich.

MORE SUSPENSION OF LICENSES.

As the result of an inquiry into the circumstances attending the collision between the steamers Douglas and Alice E. Wilds, on the night of June 12, whereby the Wilds was sunk in deep water twenty miles off Milwaukee, local inspectors Fitzgerald and Chapman have revoked the master and first-class pilot licenses of Capt. C. B. Coates and Barney Wilds. The testimony showed that Captain Coates had abandoned his watch to an unlicensed lookout man twenty minutes previous to the collision, and was in his own room when the boats came together; also that Captain Wilds saw the mast-head light of the Douglas twenty minutes before she struck, but could not see her side lights, owing to the mist lying low on the water, yet neglected to sound his whistle as a warning of impending danger. In fact no whistle was sounded by either steamer and both were running at full speed. Captain Westcott is Supervisor of the district wherein these and previous licenses have been suspended during the year, and the good work is liable to be continued until some of those who are too careless to mind how their vessels are being navigated, thereby endangering the lives and property of others, will be thinned out, at least for the season.

OLD METHODS OF SHIP CONSTRUCTION BEING RE-ADOPTED.

Readers of THE MARINE RECORD who are engaged in the construction of iron and steel ships on the lakes are by no means slow to take advantage of every known appliance in the form of modern tools, or other inventions relating more closely to the actual structural work of hulls and machinery that is brought under their notice, either through the talented ingenuity of their employes or of other inventors equally skilled in the art of ship building. It was noted in these columns last week that the Cleveland Ship Building Co. had adopted the lapped butt system for shell plating, and while this firm is the first to adopt this extra strength mode of construction on the lakes, it is by no means an original system, as the following excerpts from the newsy columns of *Fairplay*, London, demonstrate:

Because the Cunard Company has adopted a few well-known and well-tried modifications of existing practice, many people are under the impression that twin-screws, lapped butts, channel and Z-bar sections for frames, are new things now for the first time used. Needless to tell ship building and engineering readers that this is not so. As, however, various people are coming forward as "original inventors," it may be worth while to place on record one or two facts. One Mr. Thomas Moore writes to the *Liverpool Journal of Commerce* and comments on Sir E. Harland's letter to the *Times*, and claims to be the originator of double screws in virtue of a patent taken out in 1861. That Mr. Moore made some improvement may or may not be the case, but the fact that Mr. John Reid, of Glasgow, built in 1844, a twin-screw steamer called the Tracknor, for canal traffic, rather knocks the bottom out of Mr. Moore's claim. I by no means assert that Mr. John Reid was the inventor, originator or suggestor of twin-screws; he was, however, one of the earliest, if not the earliest, to use them. Perhaps some readers may know of an earlier instance of the use of twin-screws. As regards lapped butts, my contemporary in an editorial foot-note credits this, on the authority of the *Engineer*, to Harland & Wolff. As a matter of fact, Mr. John Reid adopted lapped butts on the Tiber, a twin-screw vessel built in 1851. Mr. Reid's system was the "lap and liner" butt.

It is wise to contemplate,
Ere we rush in print to state,
Or claim that we have something novel done;
And remember, ah! how true
That there's nothing really new,
In this crazy world of ours beneath the sun.

In connection with the controversy now going on with regard to the originality of certain particulars of construction in the Cunard boats, the following is the provisional specification of the patent of Mr. Wilson and Mr. Pirrie, of the firm of Harland & Wolff:

PROVISIONAL SPECIFICATION.

IMPROVEMENT IN SHIPS AND OTHER STRUCTURES OF METAL PLATES RIVETED TOGETHER.

WE, WALTER HENRY WILSON and WILLIAM JAMES PIRRIE, of Queens Island, Belfast, ship builders, do hereby declare the nature of this invention to be as follows:

This invention has for its object to provide an improved form of connection for the butts or transverse joints of ships' shell plating, deck plating, ballast tank tops, bulkheads and other plated structures, which is stronger, more easily calked, water-tight and less likely to be strained than the usual connection with either single or double straps or the ordinary form of lapped butts with liners in the longitudinal seams.

The improved connection is formed by setting inwards to a suitable angle one end of each plate, and by setting outwards the other end of the adjoining plate and lapping the one over the other in such a manner that when the plates are riveted together any longitudinal strain to which they may be subjected will pass through the center of resistance of the connection without having a tendency to distort the connection and start the riveting, as is found to be the case in the ordinary butt joints with single straps. To avoid the necessity of putting in liners or tapered filling pieces in the longitudinal seams, and also to allow of these seams being worked to a fair curve or straight line, as the case may be, we plane or otherwise cut away to a fair taper and to a feather edge the parts of the transverse lapped butts where they extend under the longitudinal seams, the part tapered away extending only for a breadth equal to that of the longitudinal seam and the length of the taper being equal to the length of the transverse lap. The inner edges of the tapered parts of the plates are planed square, and the edge of the strake of plating next above or next below butts against this, forming joints which can be easily calked.

WALTER H. WILSON, W. J. PIRRIE, April 3d, 1888.

SOMETHING IN REGARD TO FAST FREIGHT LINES.

THE MARINE RECORD lately brought up the subject of the speed of lake vessels, taking ground against the utility of what it calls extreme speed in freight-carriers. As such a subject is not complete without reference to the Owego and Chemung, of the Union Steamboat Co., their record is given in connection and their speed reckoned as unequaled on the lakes. It is not only true that these vessels carry the broom, but it is quite as true that they are even now as far from having demonstrated their capacity, as racers as when they left the Union shipyards.

They have never been pushed to their capacity, and unless other vessels come out that can sail as they have sailed, they may never be speeded any faster than they have been. The standing order to their masters is, "Don't let anybody pass you," and when they have seen the boat that has conceived the foolhardy ambition of trying titles with them drop hopelessly behind, they slow up and plug along again. It is claimed with confidence by her manager that the Owego could shorten her time from Buffalo to Chicago from 54¼ hours to 50, but if anybody should ask him to prove it he would probably ask him to wait till that record is beaten.

Still it is not true that these vessels are, or ever have been sailed fast for fun. Those who have the figures before them say that there is money in fast steamers, even for carrying freight. For instance, it is probable that either the Owego or the Chemung can make, so far as fast sailing goes, half as many more trips in a season as slow freighters; possibly this is true with regard to the Rochester of the same line. With such profits even as on wheat at 2¼ cents, and coal at 65 cents, 26 trips in a season will gross over $24,000 more than 20 trips, when vessels carry as much as the Owego or Chemung, and package freight ought to pay much better profit than coal and grain.

It will be seen that there are two reasons why these racers are not crowded through from port to port. It is not so much to save fuel and wear and tear, as, first, because profits in package freight carrying, thanks to persistent rate cutting, are not what they used to be, and, close after that, because the ports of Chicago and Buffalo are every year growing slower and slower. There is no denying this. The lake traffic is fast outrunning the dock and warehouse facilities. Here again, the fast steamer is at a disadvantage. What use is there in running her 900 miles in two days if she must lie two days in port waiting for a dock? Better take four days and save fuel. Nearly all the propeller lines are feeling the lack of warehouse room and dockage, and some of them very severely.

Buffalo will this season receive close to 10,000,000 barrels of flour and other package freight in proportion. This is nine times as much flour as was received here in the season of 1882. Our dock owners have not yet waked up to the idea that this demands rapid increase of warehouse room, or if they have they are now engaged in looking for frontage that they do not find. This rapid growth of the package freight traffic is true in a lesser degree of the leading ports of Lakes Michigan and Superior. Will it not readily be seen, then, that the Owego and Chemung are not to blame if the Tioga, that runs cheaper and costs much less, is still the best money making steamer in the Union Line?

It is true that better and faster boats than these can now be built. They each carry 500 tons in plating and other dead weight that they have been found not to need. Still, if the feat should be tried, it is quite possible that mistakes would be made that would be quite as detrimental, though vessel building is better understood than it was when the Owego came out in 1887. As the record goes there is nothing afloat on the lakes that can lead them. If some ambitious Pioneer wishes to try it and thus substantiate reported records, all she will have to do is to fall in with one of them.—*The Buffalo Express.*

MARITIME LAW.

COLLISION—VESSEL AT ANCHOR—MUTUAL FAULT.

District Court, D., Washington, N. D., August 15, 1892.

A bark was anchored on a dark night in the harbor of Port Townsend, in a course usually traveled by vessels entering the same, although not within legally reserved fairway. A lantern suspended from her rigging which failed to give a steady light was the only warning of her presence. A steamer entering the harbor at full speed collided with the bark, whose presence was not perceived by the steamer's lookout, although the bark was in the direct line of the electric lights in Port Townsend. Held, that both vessels were in fault—the bark in not furnishing proper warning of her presence, the steamer either in the inattention of her lookout, or in entering the harbor at full speed—and it was therefore a proper case for a division of damages.

The steamer, in making the run from Seattle to her usual landing at Port Townsend, while on her usual course from Marrowstone Point, and running at full speed, about 13 miles per hour, ran against the bark endwise, the stem of the steamer striking the stern of the bark between her center and the corner of the starboard side. The bark was not seen by the officers or the lookout of the steamer until the vessels were too near to each other to avoid the collision. The bark had a lantern hung from her starboard fore-rigging about seventeen or eighteen feet above her hull. Whether it did or did not give forth a light visible to the officers of the steamer as she approached, is one of the controverted points of the case. The masters and officers of the bark were on board of her and asleep. Members of the crew were assigned to keep watch, two at a time, each man to be on duty one hour. The two whose respective watches were from two until three and from three until four o'clock, have testified that they did not see or hear the steamer, and were not aware of her approach before she actually struck, and no sound of warning to passing vessels was given, other than the lantern hung in the rigging as aforesaid.

The lantern in use on the Fristad has been brought into court and made an exhibit in the case. The globe and frame of it are the best material, and the proper size. I find no fault with it, except that the burner is not reliable. In experimenting with it, a sudden jarring of the stand on which it was placed caused only smoke instead of flame to issue. Two or three repetitions of a similar jarring caused it to burn again, and give a strong light. From the testimony it appears to me to be quite probable that during part of the night before the collision this burner was smoking instead of giving light. The officers and lookout of the Premier have all testified that, when the bark came into view, they saw no light upon her.

Other steamers passed the Fristad on the night of the collision, and persons who were on board of them including their pilots, have testified that they saw the Fristad when passing, and saw her light passing her, but did not see it before. The master and mate of the Fristad have shown by their testimony that after the collision the light was taken down by the master's orders to be fixed, because it was not so bright as when they first noticed it after the collision. The mate, upon examining it, found, as he supposed, that the wick had dropped down, and screwed it up to improve the light. After considering and weighing the evidence upon the point, I find that there is a fair preponderance of it to sustain my conclusion that this lantern did not, on the night of the collision, give a uniform or steady light.

In my opinion, the Fristad must be regarded as being in part responsible for the casualty, and the case is a proper one for division of damages.

NOTES.

THE U. S. revenue cutters Dallas, Woodbury, Gallatin and Dexter have replaced their hand windlasses with Providence steam pump brake windlasses, made by the American Ship Windlass Co., of Providence, R. I. The revenue cutter Hamilton will soon change hers also.

THE owners of the new steamer recently contracted for with the Globe Iron Works Co. are: David Wallace, C. Krantz, Thos. Gawn, M. J. Courtright, J. S. Crawford, J. H. Hills, Capt. H. Wallace and Orrville Root, of Lorain, Wm. Heldmyer and J. Krantz, of Elyria, J. F. Pankhurst, John Smith, Capt. Brown, Luther Allen, Mrs. Crowl and Wm. Hamilton, of Cleveland.

THE amount of shipbuilding, repairing, machinery making of all kind connected with vessel equipment carried on in the region of the Great Lakes is enormous. It shows beyond all statistics, the extent and importance of the navigation interests of that quarter. It is only a question of time when the ship machinery manufacturers of that region will endeavor to find steady customers along the seacoast.—*The New York Maritime Register.*

GREAT BRITAIN is now building 10 armoured ships of war; France, 14; Russia, 8; United States, 9; Spain, 5 and Germany 5. The ten British vessels represent an aggregate burthen of 134,200 tons, the 14 French vessels an aggregate burthen of 77,520 tons, the 9 American vessels an aggregate burthen of 54,060 tons, the 5 Spanish vessels an aggregate burthen of 39,470 tons, and the 5 German vessels an aggregate burthen of 24,400 tons.

THE cut on front page showing a bark hove-to in a gale of wind, was made by the *Scientific American*. We need scarcely tell our sailor readers that ships are hove-to under lower main topsails, not upper fore topsails.—*American Shipbuilder, New York.* (The above may be all right enough, but the cut on the front page of the American *Shipbuilder*, shows a single topsail yard barque under her fore top-gallant sail, with the wind free on the port side. ED.)

THE Goodsell Packing Co., of Chicago, are executing an order for Goodsell's rubber-back flax packing for the largest mining pump in existence, about to be started by the Chapin Mining Co., at Iron Mountain, Mich. This pump will require 216 lineal feet of 2-inch and 54 lineal feet of 2½-inch packing for one set, and as the Chapin mine has used this packing for the past five years on air, steam and water rods, this order is an undeniable proof of the excellence of this packing.

SOMEBODY says the business of vessel building at Superior is not protected. But you can bet all you have that it is, and you will win your bet. If the whalebacks were built in Toronto they couldn't ply between Buffalo and Superior. And if a foreigner could act as master of an American vessel trading between American ports, Capt, Alex. McDougall would never have made a home in the States. Ship-building in Superior is so far protected that no amount of money can get a foreign-built vessel into our coasting trade. Hence the big shipyards at Cleveland, Detroit, Bay City, Chicago and Superior, and hence their absence on the Canadian Side.—[The Inland Ocean, Superior, Wis.

PROPOSALS.

U. S. ENGINEER OFFICE, 121 Franklin Street, Buffalo, N. Y., October 15, 1892. Sealed proposals for extension of breakwater and for building 1600 feet of the shore arm at Buffalo, N. Y. will be received at this office until 2 p. m. November 15, 1892, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office MAJOR E. H. RUFFNER, Corps of Engineers. 13-3

U. S. ENGINEER OFFICE, 121 Franklin street, Buffalo, N. Y., Oct. 15th, 1892. Sealed proposals for hire of dredge, drill boat, tug, derrick scow and for excavation of material in the Niagara River, N. Y., will be received at this office until 2 p. m., November 15th, 1892, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. MAJOR E. H. RUFFNER, Corps of Engineers. 13-3.

JEFFERSONVILLE, IND., OCTOber 1, 1892. Sealed proposals, in triplicate, will be received here until 11 o'clock a. m., (central standard time) Tuesday, the 1st day of November, 1892, for furnishing at the Q. M. Depot here 100,000 gallons of Mineral Oil, of 135° flash test, in cases of two five-gallon cans each. Government reserves right to reject any or all proposals, and to accept the whole quantity or any portion of the mineral oil bid for. All information furnished on application here. Envelopes containing proposals should be marked "Proposals for Mineral Oil," and addressed to COL. HENRY C. HODGES, Assistant Quartermaster General, U. S. Army, Depot Quartermaster.

The Marine Record,

ESTABLISHED 1878.

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CLEVELAND, O., OCTOBER 27, 1892.

THE plans of General O. M. Poe, Corps of Engineers U. S. A., for the twenty-foot channel, has been endorsed by the Washington authorities, and bids on proposals for the various portions of the work will soon be advertised for. It is to be hoped that firms engaged in this class of work on the lakes have "taken time by the forelock," and increased their facilities for dredging, towing and scow work.

THE coasting trade of the United States has always been reserved for the vessels of the national flag, and having now grown to be far more extensive and valuable than that of any other country, it is not probable that it will ever be exchanged for what any nation can give us in kind, not even the boon which the Dominion might be pleased to offer, viz.: the right of free transportation through the Welland and St. Lawrence system of canals.

As we go to press the sympathy of this and other nations is extended to President Harrison in his sad bereavement. The London *Times* says. "The death of Mrs. Harrison is an event of more than ordinary importance, inasmuch as her husband's success may in a very large degree be ascribed to her. Wide in her culture, catholic in her ideas and tastes, she broadened her circle of friends with advancing years Her death will cause genuine, wide-spread sorrow." The United States is poorer to-day in the loss of a woman and all that the word implies.

IN glancing over the registers of the several classification societies doing business in the United States in the surveying and rating of tonnage, we find that about 90 per cent. of the American vessels engaged in the Atlantic trade have been built under the rules and inspection of the "Record of American and Foreign Shipping," published by the American Shipmasters' Association, of New York. The rules of this well-known class register, besides meeting with the unqualified endorsement of the Boards of Underwriters of New York, Boston and San Francisco, have met with the approval of a Board of United States Naval Experts, appointed by the Navy Department to pass upon them, and the rating is therefore accepted with confidence by merchants and underwriters throughout the world.

IT has again been suggested that a committee of vessel owners and underwriters' agents be called upon to place the valuation on lake tonnage in the future. The advocates of such a measure should remember that a classification register, to be worth anything, must be compiled from a strictly disinterested, reliable and competent source or standpoint. Owners, underwriters and builders are interested parties; the inference is therefore clear and has evidently been made tolerably clear to those in the business, by the influences which have been brought to bear in the past. A register to merit the support of all interests should have at least one of the attributes which history tells us belonged to Cæsar's wife, and no "influoences" now or ever, should exist in the classification of iron, steel, composite or wooden lake built ships.

Is it not time that a national snug harbor for aged and incapacitated seamen of the United States mercantile marine was established? According to a report of the surgeon general of the United States hospital corps, many cases arise where seamen are turned away to apply for admission to private charitable institutions. A snug harbor for the reception of seamen, in the inclusive term, that is, all men who have earned their living by sailing for a number of years under the stars and stripes, is urgently called for. It would be a humane provision for a worthy class and tend greatly to improve the *morale* of American seamen of all grades. The legislator who champions this cause in Congress and brings it to a successful issue, would merit and receive the heartfelt gratitude of as noble a class of men as breathe God's air.

APPRENTICES IN THE MERCANTILE MARINE.

When the Hon. Jarvis Patten was Commissioner of Navigation he recommended a system of apprenticeship to be established in pursuance of which American merchant vessels engaged in the foreign trade might receive a certain fixed sum from the government for the support and instruction of apprentices carried on board for a stated term of years. Such a system would do much to improve the average standard of American seamen and repay the national expense in affording an available corps of seafaring men who could be relied upon in case of emergency to help mann the navy.

The seaman is proverbially loyal to the flag under which he sails, and American ships, being accustomed to pay higher wages and to give better food than those of other countries, have an advantage in respect to the selection of good crews; but the steady falling off of native American seamen is cause for regret, if not for alarm. The business of the mariner does not offer so much encouragement as it formerly did under the flag, and in order to induce American lads to follow the sea for a profession, some inducement might be offered with great advantage to the merchant service as well as a national provision for trained seamen.

The failure to secure American crews, or even an arbitrary per centage of same, is positively felt at all ports, except those on the chain of lakes, yet, the circumstances are such, that we can never expect the lakes to furnish a very large quota of men or boys for the over sea trade. The services are highly dissimilar, and a degree of incompetency would exist if the dual capacity of lake and sea were enforced restrictions. In the forthcoming report of the present Commissioner of Navigation, we trust that this feature of the American merchant marine will be ably dealt with, and such measures recommended as will tend to induce shipowners to employ a liberal number of apprentices, say at the rate of three for every 1,000 tons register. Such a measure, if made voluntary, and carrying with it certain annual privileges, would go far to create a nucleus of seamen having more superior educational and professional requirements than has ever been obtained hitherto.

Granted that there is now a lack of native seamen, and that the United States intend in the near future to have at least some vessels in the oversea trade, with the possibility of these reaching in a few years to a respectable merchant marine, the query arises, how are these ships to be manned if our youths evince no more inclination to enter the profession in the future than they have in the past? The interrogatory admits of only one answer, and that is, to show them there is "something in it," honor or ducats, or both. The apprentice once placed on board of a ship should not then be abandoned, but regarded as a ward of the nation, whose future was tantamount to that of a special commercial agent under the most favorable auspices of the flag. To ensure the subject being worthy of this position, high scholastic attainments, coupled with superior technical ability and skill should be exacted, and more avenues for advancement thrown open to the ambitious youth. The apprentice system was in vogue and popular during the early years of British supremacy on the ocean. Results proved the wisdom of the measure, for in later years sixty-five per cent. of their masters and officers in the merchant service had been recruited from the ranks of former apprentices, not from among the seamen, but the apprentices, who began life with the intention of eventually reaching a command, or other like honorable position in or connected with the service, and it is an open question with us at this time whether fully ninety per cent. of the men now carrying on the floating commerce of Britain have not been brought up or served under the apprenticeship system in their vessels. A fresh impetus was given this special feature when iron sailing ships were introduced, and as the American-built wooden ships began to decline, the ranks of the progressing English mercantile marine were wisely packed with the bright, brawny, educated and ambitious youth of the times, so that when the steam age set in, ample talent was at hand to make masters and officers in the new field of transportation by steam. Here, however, the United States now stands on an equality with any other maritime nation. The apprenticeship system has not been entered into to any extent by the owners of steamships, and the decline of sailing tonnage will no doubt cut off a fruitful source for recruiting the ranks of deck officers. It would, therefore, seem that the opportunity had now presented itself to the United States to enter vigorously upon the apprenticeship system for steam vessels, not only as it relates to deck officers, but also in the engine-room department. The superior attainments of either branch cannot be solely acquired by actual service afloat, and the time taken on shore to arrange and perfect the experience gained afloat would be equally well spent by the aspirants for honors in both departments, although there is every indication that there will be no lack of engine room artificers while their ranks can be recruited from the numerous high class engine works on shore, yet, there is no reason why marine engineers should not receive a large portion of their early training aboard ship, as well as the deck officers. Many vessels have as good men in the forecastle or stokehold as they have on the bridge or in the engine-room, yet they frequently remain there, apparently contented to accomplish their mission in life in the lower sphere, simply because no higher standard was set by or for them during their initial training. The opposite, however, is markedly the case, in so far as the apprenticeship system is concerned, and it behooves those who stand watch and ward over the best interests of the United States mercantile marine, to so order their influence, as to obtain for the country the best possible standard of efficiency in the present and future regime of our floating commerce, in which properly trained apprentices can be made and are a very important figure.

RECORD-BREAKING CARGOES ON THE LAKES.

Some one has said, somewhere, at some time, that the readers of marine journals, like the readers of other journals, want the truth, the whole truth and nothing but the truth, and those who are in a qualified position to enunciate truths ought to let them rip at such time as they would do the most good, not that it is necessary to inculcate religious apothegms, "holy joe" doctrines, or "sky pilot" morals, although the truth is at all times pertinent, yet, whether it is proper and appropriate at all times, is another question, the discussion of which we will not enter upon at this time.

To come back to our caption of record-breaking, carrying cargoes on the lakes, the hard truth may be pointed out at this time most properly because the unsteady fall weather has now fairly set in, and undue punishment on a hull is sure to be felt either sooner or later. About three years ago, a friendly and laudable spirit of rivalry regarding carrying capacity and speed, originated among the owners of the modern high-classed freight steamers, and every pound of freight as well as every foot of advantage was taken out of the handsome and powerful structures, then and now put afloat. This of course, was an excellent feature, as the trimming of cargoes, prompt despatch in port, close and car ful navigation, the smooth and perfect running of machinery demanded thereby, brought the industry of freight transportation to the very acme of economical administration, although, it was quite noticeable that the older shipowners were going along in the quiet tenor of their way without trying to set the lakes on fire by frictional resistance on the outside of their hulls, or yet gaining an enviable notoriety through the columns of the press for squeezing a few tons or bushels more into their hulls than previously recorded.

The speed and big cargo record has, however, been carried perhaps a notch too far, inasmuch, as all other facts have been lost sight of, until sister ships were actually expected to show a difference in effectiveness and capability in breaking the record by the carriage of a few more hundred bushels of grain, or the delivery of a little larger quantity of iron ore in a single cargo on a stated draught of water.

As we have shown in the foregoing, such results, however desirable they may be to attain under the above conditions, from a pecuniary point of view, can only be accomplished by a curtailment in some manner of the amount of weight of material used in the construction.

It should require no abstruse arguments to establish in the average reader's mind that one ship will carry just as much cargo on the same draught of water as another, provided they are both built on the same dimensions and of the same model and weight; therefore, it is obvious that to "break the record" by carrying more weight of cargo in one ship than another of like dimensions on a fixed draught of water, can only be accomplished in one way, and that is by reducing the size and thickness of the scantlings and plates of which the ship is composed.

These facts should be seriously considered by all engaged in commerce on the lakes, for it is the ambition of every master to carry all the cargo possible, and the question seems pertinent to ask, if any of our lake vessels have been carrying cargoes to such an extent that the hulls are in any way weakened to combat without cargo the tempestuous seas experienced during the fall storms?

Since the existence of the competition spoken of, the largest carrier has received the greatest credit, and in the effort to obtain the credit, it is hard to say what may have been sacrificed or overlooked in other respects. To quote a previous sentence of ours, "the builder constructs, the owner sails, and the underwriter insures, each for their own special "rake off", at least, whatever policy may be adopted as a means to justify the end, the earning capacity or net gain is the prime factor and bare truth of the *raison d'etre* in each case.

Another feature necessarily depending upon "breaking the record" is the fact that lake built iron and steel ships have not in all cases been built under arbitrary rules based upon maritime experience, hence, each builder may have taken unto himself rules which might be departed from, on special occasions, whereby the car-

rying capacity of ships could be increased by virtue of lightening the entire structure, and this too, with all confidence in the general and permanent ability of the ship to withstand all proper usage.

It is a matter of gratification, however, to note that although iron and steel ships up to four thousand tons capacity are now afloat, constructed at the discretion of the builders, and without undergoing any special surveys, or being entered in any universal classification, owners are positive in the belief that these ships are staunch well-constructed and capable of withstanding the extraordinary strains and stresses which they are liable at some time to undergo, and we point with pride to the many cases which have occurred wherein the hardest treatment has been unable to materially injure the construction. Further than this, builders are unanimous in their desire to see established a uniform code, whereby underbidding, through a saving of material and workmanship, may be an impossible feature and so that the excellence of construction in their build might receive full credit from an impartial and authoritative source and the owners a corresponding satisfaction in the rating and lower insurance placed upon their handsome new tonnage. No salt water rules of building, or other uncalled for restrictions in the tonnage built for lake service will, however, meet with favor, or be countenanced, special standards for lake service is what is wanted in some universally known classification register, to make "the record-breaking" proclivities beyond even the suspicion of over-straining and guard builders, owners and underwriters in their severally joint interests.

INNOVATIONS IN SHIP CONSTRUCTION.

THE ancient conception, custom and rules in the constructive ability of cargo steamers is having a sad whirl in these days of innovations. Whalebacks, straightbacks and monitors seem to have knocked the ordinary construction "galley west." And now comes along another feature, which, although spoken of in these columns several weeks ago, has only become an accomplished fact at this date. We refer to the barges built at West Superior, Wis., by the American Steel Barge Co. especially for the flour trade. Jack says "that different ships have different fashions," and so, we have known of bow ports, stern ports and side ports, but we have never yet sighted anything with commodious ports all on one side. This one-sided arrangement of "gates" along the hull, will no doubt make old shipbuilders lift their hands in alarming wonder and stand ready to be struck comical at the next innovation that is sprung upon their preconceived ideas of the maritime fitness of things. Then by and by they may not be surprised to find that with the aid of a powerful derrick placed amidships, an archway may be created at any point in the construction; in fact, a patent is now in existence, whereby the stem, down to light water draft, is so arranged, that a purchase can lift the whole construction of upper works from about where the foremast is usually stepped, down to ballast trim draft on the stem, this is topped up, like topping a boom, the hold filled from forward, end on, and the whole firmly closed again in ship-shape style. We will next look for sections, properly marked and numbered, stored away in a large basin ready for instant joining and convenient to be un-sectioned at any point. These sections, like railroad cars, may be ordered to accommodate a large consignment or dropped off where only a limited amount of freight is secured, and when the right number of sections have been left at any port, they may be ordered back to the storage point, etc., etc. There are lots of innovations in the art of shipbuilding yet to be heard from, although the crank purchase for swiveling masts in tacking, wearing or boxhauling a wind jammer has not proved a complete success, yet, a wide latitude is being experienced in the construction and workings of a hull that is propelled by the helical twist of a water churner.

AND now it has been re-discovered that the Anglo-American treaty of 1817, whereby both powers were limited in the keep-up or construction of war vessels on the Great Lakes was abrogated in 1861, and that only a tacit understanding, purely unauthorized, has existed since that time. The immense advantage of being able to build war vessels inland, safe from the immediate invasion of a foreign power, is easy of appreciation. Lieut. Corden, U.S. N., who is now engaged in making his second trip across the continent in a national capacity, says, that his eyes have been widely opened in regard to the extent of the lake shipbuilders' interests and their ability to construct tonnage of any class. He says, the name of the Lake Erie Engineering Works of Buffalo is familiar to him wherever he has gone, and candidly admits that no finer or more complete plant for the construction of heavy machinery exists in the United States. The lake shipyards are also highly eulogized, and he proclaims open competition for naval contracts. It would now be in order for F. W. Wheeler & Co. to ascertain by what authority their bid for the construction of a gunboat was declared ineligible.

A SIMPLE and accurate method of determining the nautical measured mile on water is to lay off the distance on shore and mark the same at each end, then parallel the beacons off the port, and either buoy it, or note carefully the bearings and allow the shore beacons or marks to stand permanently. Such measured mile spaces should be established at all of the prominent lake ports, and further than this, it would be but a small matter for the constructors of the breakwaters to mark by painting in a continuous line in large figures the quadrant of a compass on the outside of the breakwater. By this means the entire lake tonnage would have a simple and ready means of ascertaining correct magnetic bearings so as to adjust their compasses. This feature is so easy of accomplishment and of such practical benefit that the engineer officers in charge of the several districts might adopt the suggestion and earn the thanks of the sailing community.

WELL EQUIPPED VESSELS.

The recent decision of Judge Swan, of Detroit, in the collision case of the Wilson line steamer Olympia and barge Sherman is of more importance to vessel owners than the pecuniary results in the case would seem to indicate. Briefly stated, the circumstances show that the Olympia parted her wheel ropes when passing the barge John Sherman in tow in Detroit river, last May. As soon as possible the Olympia's engines were reversed, but, getting tide-sheered, she struck the Sherman a severe blow and caused such damage that the owners of the Sherman sought compensation, hence the libel and its result. Judge Swan spoke in deprecatory terms of the popular prejudice against inevitable accidents where not a shadow of blame could be found to exist, and with profound erudition based his decision on the closely sifted evidence submitted concerning the Olympia's tiller ropes and steering apparatus, which, just preceding the accident were found to be perfect as far as skill and care could make them, and therefore he dismissed the libel without costs.

It is this feature of the skill, care and discipline required by the ordinary practice of seamen that makes the precedent established by Judge Swan of more than ordinary interest and worthily supports the well advised owner in his efforts to keep his tonnage well equipped, staunch and seaworthy in all respects. In this case the wheel ropes had been purchased from a reliable firm, were comparatively new, and were inspeced by an officer of the steamer previous to her entering the river, so that all ordinary skill, prudence and foresight had been strictly observed. Such being the case, it would be difficult to conceive how the Judge could have rendered a more equitable and righteous decision than that which he arrived at. On reviewing the evidence, Judge Swan, with a clearness of the subject that could only be acquired by an astute familiarity with the facts govern-such cases, stated:

"It is not enough to exempt a vessel from the consequences of injury to life and property traceable to the sudden collapse of the guiding power, that the material was originally of the best quality, and that its service, dimensions and workmanship warranted reliance upon its sufficiency, unless these conditions are supplemented by the closest attention to their preservation. Ordinary care and skill are relative terms, limited only by the circumstances which invoke them, and the field for their exercise enlarges with the dangerous character of the agency employed. The same considerations which exact from a vessel propelled by steam the utmost care and circumspection in navigation, because of her speed and power, more forcibly require that the machinery for the control of her course shall be equal to that end so far as reasonable care and skill can make and maintain it. If such care and skill are bestowed in their use and preservation, and an accident occurs, the law gives immunity, regarding it as unavoidable. It is urged that the defense of inevitable accident is one not to be favored, and it must be confessed that there is a popular prejudice against it. There is a seeming hardship in leaving an injured party innocent of fault to bear the consequences of a misfortune, without redress against the person or thing causing the loss, even though by pure fortuity; yet the argument against this defense loses sight of the fact that the imposition of liability for any part of such loss upon one not culpable, would not only be a judicial wrong, which shifts the misfortune upon an innocent person, but its effects would be disastrous to the safety of life and property, by removing a strong incentve to the exercise of care and skill in the conduct of every occupation and business. The courts would then become tribunals for the assessment of damages merely, without power to inquire into other facts—but instruments of rank injustice. The popular sentiment against absolving a person, who without fault of himself or his servants, has caused damage to another, is as unjust and unpolitic as the obsolete law of deodand, which forfeited to the king the animal or thing which caused the death of a human being."

The foregoing epitome of legal lore ably supports the action of careful seamen who follow closely the discipline gained by experience, even at the expense of being sometimes thought too circumspect in matters affecting the equipment and safe navigation of their vessels, and to be fully exonerated from all liability, through an unforseen casualty, however brought about, speaks highly for the owners, master and crew of any vessel where such commendable discipline is found to exist.

PURCHASE OF ANOTHER LARGE NEW FREIGHT STEAMER.

The large freight monitor now under construction at the yards of the Cleveland Shipbuilding Co., noted in our column of new tonnage last week as booked on builders' account, has just been purchased by a syndicate of Cleveland vessel owners at remarkable good figures for the builders. This steamer, numbered 18 in the shipyard, is now partly plated, and her water bottom is nearly finished. Her dimensions are 340 feet over all, 324 feet keel, 42 feet beam, and 24 feet depth of hold, She will have triple expansion engines; two Scotch type boilers, the "Providence" patent windlass and steam steerer, capacity about 3,600 tons on the usual draft of water, and a speed of 13 miles an hour.

THE FREIGHT SITUATION.

The general freight situation continues encouraging. Escanaba ore rates is now 80 cents to Ohio ports; the Marquette rate $1.10, and the Ashland rate $1.50.

A threatened blockade in grain has dampened the wheat trade from Chicago somewhat, as well as at Duluth, but freight rates have so far not been seriously affected.

The coal rate to Chicago is now 75 cents, Milwaukee 70 cents, and 65 cents has been paid to Escanaba and the Sault, but Lake Superior rates show no change for the better.

Lumber rates still improve, $3.75 having been paid from Ashland to Ohio ports, and the market is now so firm that $4 is asked for, and this figure will probably be reached this week.

NEW TONNAGE ASSIGNED OFFICIAL NUMBERS

The following new lake built tonnage has been assigned official numbers by the Bureau of Navigation, Treasury Department, during the week ending October 22nd, 1892:

NAME.	TONNAGE.		HOME PORT.	WHERE BUILT.
	GROSS.	NET.		
No. 126	1128.41	1083.51	Buffalo	Superior, Wis.
No. 127	1128.41	1083.51	Buffalo	Superior, Wis.
Perfection	70.58	42.58	Pt. Hrn	W. Bay City.
Pauline Hickler	37.84	18.92	Buffalo	Buffalo, N. Y.
Whistler	19.36	18.40	Detroit	Detroit, Mich.

It is also worthy of note that Acting Commissioner of Navigation T. B. Saunders, now records the port where the new tonnage is built in form 13, of his department. This is a valuable addition in making up annual tonnage reports.

LAUNCH AT DETROIT.

Special Correspondence to The Marine Record.

DETROIT, MICH.—The large steel straightback steamer named the Selwyn Eddy, built to the order of Eddy Bros. & Co., of Bay City, Mich., will be launched from the Wyandotte yards of the Detroit Dry Dock Co., on Saturday, October 29th. Her dimensions are 360 feet over all, 342 feet keel, 42 feet beam, and 24 feet depth of hold. She will carry about 3,800 tons, and will have good power. Her contract price was $225,000.

PERSONAL.

Mr. James C. McCabe, of the Bay City *Tribune*, passed through Cleveland on Tuesday, en route for home. Mr. McCabe had been on a trip to the coast with lightship No. 54, built at the yards of F. W. Wheeler & Co., West Bay City.

Capt. James Davidson, shipbuilder, Capt. James Reid, salvage and wrecking master, and Mr. S. O. Fisher, lumber merchant, spent a few days in Chicago since our last issue.

Mr. Chas. W. Keep, secretary of the Lake Carriers' Association, visited Cleveland on Tuesday to confer with Capt. McKay on Association business.

Mr. William L. Brown has been elected president of the Chicago Ship Building Co., succeeding the late Emmons Blaine.

Mr. C. A. McDonald, of the firm of Crosby & McDonald, Chicago, spent Tuesday in Cleveland.

Capt. Frank Hart, of the firm of Blood & Hart, Marine City, Mich., was in Cleveland on Tuesday, on business with his vessel brokers, Mitchell & Co.

Among the vesselmen visiting Cleveland since our last issue was C. C. Wheeler, the respected father of F. W. Wheeler, West Bay City Mich.; also Captains Weeks and Boutelle, who were engaged in consultation with counsel on a case of damages to vessel property.

Mr. W. J. Clarke, general agent of the railroad department, and Mr. J. McGhie, both of the General Electric Co., visited Cleveland during the past week.

Mr. H. G. Trout, of the King Iron Works, Buffalo, N. Y., visited Chicago for a few days last week.

THE ANCHOR LINE

"THREE SISTERS."

(By Joseph R. Oldham, N. A., Cleveland, O.)

I think it is always an interesting study to carefully compare the ideas of eminent men, even though such ideas be apparently visionary, but when great projects are carried into practical effect through sturdy geniuses possessed with the courage of their convictions, so that huge machines are brought forth it may be in startling grandeur, as instanced by the Eiffel tower and the Tay bridge, with 51,000 tons of steel composing its structure—a portion of the latter with one of its girders inverted and placed on top of its sister girder as it now lies, being not very dissimilar to the tower, either in dimensions, contour or weight. When ideas become solidified in any such degree as these, a comparison of their merits or demerits cannot but be both interesting and instructive. In the following lines, which I trust may be absolutely free from personalities, I may premise that in each of the great shipbuilding yards on the northwestern lakes there were several officials who had something to say, and there were others who were more unhappily environed by having to say something. Further, I shall not trouble my readers by attempting to apportion the precise quotum of merit due to the several great achievements referred to, but will say of each, "A mighty leap was this; no transient stride; a great conception of still greater brain."

About one year ago tenders were solicited by one of our oldest and richest shipping corporations for three steel steamships, to be of the same dimensions, tonnage, horse power and arrangements of hatchways, gangways and cargo gear. Now all this being so, one would imagine, or almost aver, that three very similar steamers would be produced, in fact, three sister ships might have been looked for, but the imagination being by no means an exact faculty, and being eminently ununfit for gauging the acts of men, particularly engineering men, let me say at once that the imaginations or lucubrations of the gentlemen whose work we are discussing produced perhaps the most extraordinary diversity or charming variety in detail of construction I have ever known to be reared on so circumscribed a base.

Of course in each of the great shipyards where the "Three Sisters" were constructed, there were general managers or superintendents—good practical men, every one of them, and possessed of no little knowledge of the theory of naval architecture and mechanical engineering.

MODEL.—One gentleman said that a steamer ought to float above water as much as possible, and he would keep the sea off the decks. Another said he wished the sea to come up the side as it would then be less effective in causing the ship to roll, but in one instance the side was beautifully arranged to induce the sea to come up whilst the bow was just as carefully designed to cause the sea to stay down. These diverse theories were somewhat difficult to reconcile with talented experience.

One builder made his vessel about straight on the deck at the center, which gave a slight rise at the ends, the other ships were straight on the deck at side line, which gave a slight drop at the ends.

One naval architect said in connection with these steamers, that as regards sea-going qualifications, we had not improved in our models for hundreds, or perhaps thousands of years and the ancients always gave their vessels some sheer. The other gentleman remarked that of all the foolish things he ever saw it was giving a deep lake steamer sheer, there was no sense in it, these steamers always sailed with fifty or sixty per cent. surplus buoyancy whilst the average tramp crossed the ocean with twenty-five or thirty per cent., in which case sheer did help them, both when "head-to" and in running, our boats seldom, or ever, ship green seas and as we require them to carry dead-weight, every ton in weight we can cut off the vessel, whether it be off their sheer or other part, means a ton added to the dead-weight ability.

As to looks, I have always said that any feature of a machine which adds to its efficiency and economy in working without increasing the first cost cannot be ugly.

This trio, however, could not be brought to agree upon a uniform price, as each one appeared to believe that his production would be worth much more than his confreres, indeed the contractor who received the lowest price talked as if his vessel was worth about as much as the other two and without doubt this was a very expensive steamer to build.

FRAMES.—The framing of the 3 ships were very much alike, though one shipbuilder reduced the spacing from 24 inches at the bluff of the bow to 18 inches at the stem, another did not do this, one shipbuilder carried his reverse frames up to the upper deck, the others did not. One continued the frames up to the top of forecastle, the others added the forecastle frames in separate lengths and secured them to the main deck by brackets.

BEAMS.—One said the beams should be deep, and he therefore placed them 4 feet apart, another said they ought to be spaced only 2 feet apart with thin decks, one used steel angles for his purpose, another used T bulbs, the third adopted ┐ bulb angles.

BALLAST-TANKS.—As regards the method of making the water-tight connection between the tank top and the bilge, one man in effect said that the error of cutting the frame to secure this connection was most flagrant and ought not to be allowed under any circumstances. The other replied that soft "stops" around the frame were so abhorent to his ideas of good mechanical construction that he could not conceive how shipowners could be so blind to their own interests as to accept such an arrangement—or rather, derangement—at any price. How could any one compare canvas, red lead or buggerum with solid metallic calking? The third said, if they would only make their tank and bilge brackets as he made them, it would matter little whether the frames were cut or not.

DOUBLE BOTTOMS.—Another friend said that the longitudinal system was the only proper method of construction. Others said that whilst that system was more expensive than the ordinary transverse floor, with top, fore and aft girder, it was also more difficult to repair. One said the tank top should be lower at the centre line than at the bilges; others said that was absurd, the tank top should always be higher at the centre than at the sides. One placed Z irons on top 4 feet apart; the other placed angle irons 2 feet apart, while yet another dispensed with both and fitted wood bearers on top.

BUTT STRAPS.—One of my friends, whilst riding with me, remarked that he could never understand how any man who understood his business could be satisfied with single butt straps. Where severe stresses were experienced he would have double sheer both top and bottom. Another said he saw no sense in doing this, for he had ample sectional area of rivets without double sheer. A third remarked that he made his double bottom so strong that the top sides would be fractured long before the bilge would give way; therefore, he saw no reason for extra riveting and double straps at the bilge.

ENGINES.—The diameters of the several cylinders were not very diverse, though two makers made their low-pressure engine two inches greater in diameter than the other. These gentlemen did this because the low-pressure cylinder limits the power of the combined engines, or, as he would have expressed it, in other words, because the energy exerted by a fluid depends on the change in pressure and volume which it undergoes, not on the number and arrangement of the cylinders.

THE ANCHOR LINE "THREE SISTERS."

Mahoning, Codorus and Schuylkill—by Joseph R. Oldham, N. A.

The "Three Sisters."	Keel Length.	Breadth Molded.	Depth Molded.	Tonnage Efficiency. D W / R T	Weight Efficiency. D W / E W	Dead Weight Ability.	Mean Draft Water.	Light Draft Mean.	Engines Diameter of Cylinders.	Stroke.	Boilers. Dia.	Boilers. Long	Propeller Wheels.		Blade Area.
	Feet.	Feet.	Feet.			Tons	Feet.	Feet.	Inches.	In.	Feet.	Feet.	Feet.	Feet.	Sq. ft.
A. Globe	275	40–0	26–0	1.681	2.284	3,060	16–0	5–8	20—32—52	42	14	12–6	13–	15–0	52
B. Buff	275	40–0	26–0	1.730	2.253	3,020	16–0	5–8	20—32—54	44	14	12–0	12–6	15–0	58
C. Stuart	275	40–0	26–0	2.320	2.320	2,970	16–0	5–6½	20—32—54	42	14	12–0	12–6	15–9	48

As regards the position of the cylinders, one maker placed the high pressure aft, the low pressure forward, and the intermediate pressure cylinder between the two, another maker placed the low pressure aft and the intermediate pressure forward, and the high pressure between the two, and made his diameters such that with a cut off from fifty to sixty per cent. the theoretical absolute terminal pressure in the low-pressure cylinder would not exceed 10 pounds per square inch. He also maintained that the low-pressure engine was the source of the greatest inefficiency and should be relied on to complete the economy of the whole machine. As to sequence of cranks, one maker arranged the high pressure crank leading, intermediate crank following, and low pressure crank last. Another maker placed his intermediate engine crank last, because, if the low pressure crank be arranged last, it results in excessive variation in the receiver pressure, greater range of temperatures and increased variations in initial stresses.

The third arrangement was intermediate crank leading, high pressure following, and low pressure last. A better arrangement would have been high, low, and intermediate.

BOILERS.—There is no remarkable discrepancy between the three sets of boilers, though one builder did make his furnaces 46 inches diameter, against 44 inches in the others. There was also a difference in the lengths of fire grates, but this did not materially affect either the power or consumption of fuel; this depending on the diameter of furnace, in the absence of forced draft. One gentleman made his low pressure cylinder two inches less than the others, and his stroke two inches less than one of the others. The explanation of this was that his boilers being longer, and furnaces larger, there would, therefore, be no loss of power; for the power, or rather the heat, which represents the power, was all contained in the boilers; but why this vessel should have a larger wheel than the others I could not ascertain, except that this gentleman would never acknowledge the assumed fact of being "over-screwed," and he maintained that what appeared to be lost in capacity of cylinders would be more than compensated by the extra revolutions of his engines. I said that I could understand that, if his wheel also had been smaller than the others, but as it was, I gave it up.

VALVE GEARS.—One gentleman said, if you want a perfect indicator diagram, you must adopt the Joy valve gear or other similar gear, and I always fit this on my high pressure cylinder. Besides this most important desiderata, I also gain the space required by two eccentrics, and increase the length of my crank pins or main bearings to that extent, and if this is not admitted to be an advantage, I will appeal to any old sea-going engineer, and ask him how he felt when off a lee shore on a stormy night, with his bilge-water gaining on him, coal in bunkers very low, with main bearings doubtful and a hot crank pin to keep him lively. The other maker said that might be all very true, but he had found the double eccentrics and Stevenson's link motion very faithful old servants, and if anything serious happened to one eccentric there was always the second to fall back upon; besides it mattered little whether the steam was evenly distributed in the high pressure cylinder or not, for the low pressure was not only the measure of the power, but the economy of the whole machine depended entirely on the last step in expansion. Two makers made their boilers 14 feet diameter and 12 feet in length, and the furnaces 44 inches in diameter. The third maker said those boilers were too short for the coal in this country and the grates were too small; a large furnace was the most important feature for an economical boiler in the absence of forced draft. Mr. Hammond says 150 cubic feet of air is required for the combustion of one pound of coal, for when coal is burnt with insufficient air, carbonic oxide is produced and to convert this into gas not less than 200,000 cubic feet of air to 10,000 feet of carbonic oxide must be admitted, or say 20 to 1, or not less than 100 cubic feet to each pound of coal. The other engineers maintained that the furnaces were large enough, and they did not believe in crowding their boilers with too large furnaces and too many tubes, for nothing is of greater importance than free circulation of water, and that could only be obtained by allowing plenty of space between the rows of tubes and between the tubes, the furnaces and the shell of boiler. This gentleman's efforts were mainly directed towards the saving of fuel. For my own part I may say that I look upon extraordinary results in economy of consumption of fuel with suspicion as regards the general economy or success of a steamer in the matter of working expenses, and it should seem from the following statement of the gross disbursements of a fleet of steamers engaged in the foreign trade, that the coal bill is but a secondary item of the working expenses in cargo steamers, and if this be so for long voyages, it must be of still less moment on lake steamers. I do not mean by this that we should rest on our oars and remain contented with a coal consumption of 1½ pounds per indicated horse-power per hour, but I have frequently found that when the consumption of fuel is very low, the speed of the vessel is very low, I mean unduly so.

Gross earnings of six tramp steamers for twelve months	$350,000

EXPENDITURES OF ABOVE FOR TWELVE MONTHS.

Wages and provisions	$ 69,000
Port charges	55,000
Stores, docking and painting	51,000
Insurance	45,000
Loading and discharging	40,000
Fuel	35,000
Profits	35,000
Commissions and dispatch money	20,000
	$350,000

As regards these three steamers, generally and particularly their arrangements for loading and discharging cargo, I will hazard the opinion, and that without any qualification or provision for retreat, that no superior or possibly equal facilities exist on these lakes or elsewhere for the economical handling, easy and harmless storage of package freight than obtains in the Codorus, Schuylkill and Mahoning, and it would not be easy to give Mr. E. T. Evans, the western manager of the Anchor Line of steamers, too much credit for his experienced foresight with regard to these matters. In the foregoing table may be seen the general particulars of these steamers: